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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/543,188	07/22/2005	Takayuki Itoh	624.45265X00	5505

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EXAMINER	
BADR, HAMID R	

ART UNIT	PAPER NUMBER
1794	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/543,188	ITOH ET AL.	
	Examiner	Art Unit	
	HAMID R. BADR	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 July 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7/22/2005, 10/21/2005, 6/20/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 5, 13,15, 20, and 27-30 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claims 5, 13, 20, and 27 are indefinite for the phrase “a treated matter thereof”. It is unclear what is meant by “ a treated matter”. It is unclear what the applicant regards as the invention.

4. Claims 15, and 27 are indefinite for the phrase “an anti-mold”. It is unclear what is meant by "anti-mold method". Since a method cannot be anti-mold per se, it is unclear what the applicant regards as the invention.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-4, 8-12, 16-19, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Wang et al. (1993; Inhibition of *Listeria monocytogenes* by monoacylglycerols synthesized for coconut oil and milkfat by lipase catalyzed glycerolysis; hereinafter R3)

7. R3 discloses that monoacylglycerols synthesized from conconut oil and milkfat are inhibitive to *Listeria monocytogenes*. The composition of fatty acids present in coconut monoglycerides was associated with the anti listerial activity and lauric acid was the most active fatty acid of the series C8-C16. Certain combination of monoglycerides also gave synergistic effect in their anti-microbial activities. R3 discloses that the results obtained indicate that monoglycerides synthesized from coconut oil could be used to control L. monocytogenes in certain dairy products or in other foods that contain reduced fat (Abstract).

Claim Rejections - 35 USC § 103

8. Claims 1-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2000-287661 A. (machine translation; hereinafter R1) in view of Mayra-Makinen et al. (US 5,378,458; hereinafter R2) and Fennema (1996)

9. R1 discloses an antimicrobial activity effective in mold. R1 discloses that the keeping quality of a heat treated food can be improved remarkably [0004].

10. R1 teaches adding lauric acid (C12) to the food material at a concentration of 0.001-0.09% by weight of the food material. Sodium acetate or the neutral salt of an organic acid may be further added [0005, lines 1-3]. R1 discloses that the antimicrobial activity does not include higher fatty acids other than lauric acid which functions effectively [0005, lines 11-13].

11. R1 gives various examples of foods made with the additive (lauric acid compound) including a bread product containing dry yeast, salt, sugar, water, butter and

bread flour. The dough is fermented and baked for 20 minutes at 180C [page 6, Work example 6).

12. R1 concludes that if the invention is carried out as explained, antimicrobial activity effective in mold can be shown and the keeping quality of the food manufactured through a heating step as a result can be remarkably put on [0010].

13. Regarding the limitations of claims 1-4, 9-12, 16-19, 24-26: Given that lipase treatment of an oil or fat releases fatty acids, and given that coconut oil is a lauric acid oil, meaning that about 50% (Fennema, 1996) of the fatty acid content is lauric acid, treatment of coconut oil with lipase will produce an abundance of lauric acid and as a result the lipase treated coconut oil having free lauric acid will act as anti-mold agent as disclosed by R1. Milk fat also contains a variety of fatty acids ranging from 4 to 18 carbon atoms. Lauric acid content is about 5% (Fennema, 1996). Consequently the lipase treatment of milk fat will produce lauric acid together with other fatty acids. It would be obvious to one of ordinary skill in the art to hydrolyze a fat which is known to be a source of lauric acid using lipase. The released lauric acid then functions as an anti mold as disclosed by R1.

14. R1 is silent regarding lipase treated oil and fat as a preservative. Neither does it mention lactic acid bacteria for preservation purposes.

15. R2 discloses the role and effect of lactic acid bacteria in controlling yeast and molds. The lactic acid bacteria disclosed by R2 may be used on its own or in combination with other lactic acid and propionic acid producing bacteria or in combination with conventional agents used for yeast and mold control (Abstract).

16. R2 demonstrates the inhibition of molds and yeasts with the lactic acid bacterium. Molds of the genera *Penicillium, Aspergillus*, and *Cladosporium* isolated form foodstuff , such as bread, and cheese as well as yeasts of the genus *Candida* isolated from bread were used in the inhibition test (Col. 5, lines 55-63). The lactic acid bacterium strain inhibited *Penicillium, Aspergillus*, *Cladosporium* and *Candida* when added at 10% concentration.

17. R2 discloses the use of a preparation comprising the lactobacillus casei for the inhibition of molds in sour bread (Example 12).

18. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the teachings of R1 and adopt the teachings of R2 to improve the keeping quality of bread. One would do so to benefit from the anti mold substances or organic acids synthesized by lactic acid bacteria. Absent any evidence and based on the combined teachings of the cited references, there would be a reasonable expectation of success in improving the keeping quality of a foodstuff like bread.

Conclusion

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. JP 4-346746, JP 5-73 A, JP 5-72 A, JP 2001-178433, JP 11-164675 are all in Japanese. The translations are not available.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HAMID R. BADR whose telephone number is (571)270-3455. The examiner can normally be reached on M-T 5:00 to 3:30 (Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on (571) 272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hamid R Badr
Examiner
Art Unit 1794

/Callie E. Shosho/
Supervisory Patent Examiner, Art Unit 1794